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EXAMINER
PATEL, HARESH N

ART UNIT	PAPER NUMBER
2126	11

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	09/746,877	RAZ ET AL.
	Examiner	Art Unit
	Haresh Patel	2126

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-44</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-44</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>22 December 2000</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)   4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6) ☐ Other: .

DETAILED ACTION

1.   Claims 1-44 are presented for examination.

Priority

2.   Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged.

Specification

3.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

        The following title is suggested: "An improved customized multilevel intelligent caching

system and method to stream application software to the client by reducing time and cost of

streaming".

Drawings

4.   Figure 1 should be designated by a legend such as --Prior Art-- because only that which is

old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings

are required in reply to the Office action to avoid abandonment of the application. The objection

to the drawings will not be held in abeyance.

Information Disclosure Statement

5.   An initialed and dated copy of Applicant's IDS form 1449, is attached to the instant

Office action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.   Claims 1 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

The phrase "each device comprises one of an intermediate server and a client" in claims 1

and 13 renders the claim indefinite. If device is meant for both upstream device and downstream

device, then it should be clearly specified. If each device has an intermediate server and a client

device, then it should be clearly specified on how downstream device and upstream device are

connected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferrel et al.

6,199,082 (Hereafter Ferrel) in view of Getchius et. al. 6,408,294 (Hereafter Getchius).

8.   As per claims 1, 13, 25 and 35, Ferrel teaches the following:

a system for streaming a software application to a plurality of clients

comprising (e.g., when clients or customers access the server's content, abstract),

a server for use in a system for streaming a software application to a

plurality of clients comprising (e.g., when clients or customers access the server's content,

abstract),

in a system for streaming a software application as blocks from a principal

server to at least one client having at least one intermediate server between the principal server

and the client, each intermediate server connected to at least one upstream device and at least one

downstream device, each device comprising one of the principal server, a client, and another

intermediate server, a method for improving the deliver of the software application comprising

the steps of, (e.g., The object, when and if found, can later be propagated to its final destination

in a store-and-forward manner, or the requested object can be transmitted between the point of its

discovery to the point of its request without store-and-forward copies of it being retained at

intermediate server sites. This is governed by system configuration settings for each Object

Broker site and the administration policy of that site, col. 43, lines 36 – 48),

a computer program product for use a system for streaming a software

application as blocks from a principal server to at least one client having at least one intermediate

server between the principal server and the client, each intermediate server connected to at least

one upstream device and at least one downstream device, each device comprising one of the

principal server, a client, and another intermediate server, the computer program product

comprising computer code to configure an intermediate server to:

a cache (e.g., The object moniker is also instrumental in the MPS scheme for local object

caching, col. 43, lines 16-17),

a principal server having the software stored thereon as a plurality of blocks (e.g., a

multimedia publishing system where the format and content can be separated and uploaded to a

server by a publisher, abstract, Beginning with a description of the important concept of

separating design (or title layout) and content, this section continues by discussing the major

components and configuration of the MP system, col. 9, lines 13-21), and a principal streaming

communication manager configured to transmit predicted blocks to designated devices connected

to the principal server and service requests for blocks issued from downstream devices;

at least one intermediate server connected between the principal server and the

plurality of clients (e.g., The object, when and if found, can later be propagated to its final

destination in a store-and-forward manner, or the requested object can be transmitted between

the point of its discovery to the point of its request without store-and-forward copies of it being

retained at intermediate server sites. This is governed by system configuration settings for each

Object Broker site and the administration policy of that site, col. 43, lines 36 – 48), each

intermediate server connected to at least one upstream device (e.g., multimedia publishing

system server, arbiter, gateway, WAN, figure 3) and at least one downstream device and

comprising a cache (e.g., Subsequent downloads of content transmits only the content since the

format is cached on the customer's computer after the first download, abstract), a respective

intermediate predictive streaming application configured to predict blocks which will be required

by connected downstream devices (e.g., Subsequent downloads of content transmits only the

content since the format is cached on the customer's computer after the first download. If the

publisher desires to change the format at a subsequent time, the next download of content by the

customer downloads both the new layout format and the new content. This publication scheme

minimizes the transmission of data in bandwidth limited environments, abstract), and a

respective intermediate streaming communication manager (e.g., the OLE Structured Storage

model generally implements these objects; applications rarely, if ever, need to implement them.

These objects, like all others in OLE, implement interfaces: IStream for stream objects, IStorage

for storage objects, col. 12, lines 40 –44),

each respective intermediate streaming communication manager configured to (a)

transmit predicted blocks to designated downstream devices (e.g., Result GUIDs 514

(representative of stories matching the queries and search objects) are transmitted back to the

customer and appear in a results pane 516 of the Find dialog 510, col. 24, lines 29 – 35),

(b) service requests for blocks issued from downstream devices (e.g., The queries 512

issued by the customer 160 in the Find dialog 510 are joined with the criteria of the title's

searches due to the search object(s) and then the aggregate is queried against the content

database in the publication storage 120, col. 24, lines 25 – 35),

(c) cache blocks received from connected upstream devices (e.g., The object moniker is

also instrumental in the MPS scheme for local object caching, col. 43, lines 16-17),

and (d) issue requests for a particular block to an upstream device when the particular

block is needed for transmission to a downstream device and is not present in the cache (e.g.,

The object, when and if found, can later be propagated to its final destination in a store-and-

forward manner, or the requested object can be transmitted between the point of its discovery to

the point of its request without store-and-forward copies of it being retained at intermediate

server sites. This is governed by system configuration settings for each Object Broker site and

the administration policy of that site, col. 43, lines 36 – 48),

wherein each device comprises one of an intermediate server and a client (e.g.,

multimedia publishing system server, arbiter, gateway, WAN, figure 3).

However, Ferrel does not teach application to predict user queries.

Getchius teaches the following.

a principal predictive streaming application configured to predict blocks which will

be required by devices connected to the principal server (e.g., For example, the query engine, in

addition including the information retrieval software 908 that is to be used to obtain listings in

response to user queries, may further include banner ad retrieval software 909 for retrieving

advertisements that relate to the user's query, col. 32, lines 44 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Ferrel with the teachings of Getchius in order to facilitate

faster information to the client by providing a mechanism to predict the future user requests.

9.   As per claims 2-12, 14-24, 26-34 and 36-44, Ferrel teaches the following:

the intermediate streaming communication manager is further configured to, in response

to an indication that a cache purge is required (e.g., The persistence reference count 640 is only

valid within a COS and is used for "garbage collection". When an object is no longer used,

signified by the persistence reference count 640 equal to zero, garbage collection removes the

object. When the object is removed, a tombstone is created in the moniker table to indicate that

the object did exist in the COS at some time in the past. The tombstone is a moniker with a flag which indicates that the object of that GUID is extinct. The object storage is purged but the moniker remains, col. 43, lines 1-15),

select at least one block to purge in accordance with a determination of a cost to replace particular blocks in the cache (e.g., the main focus of the MP system 100 is to provide an efficient, cost-effective mechanism to manage the creation and management of dynamic, continually changing on-line applications, The object storage is purged but the moniker remains, col. 43, lines 1-15),

the intermediate communication streaming manager is further configured to determine the cost to replace particular blocks in the cache with reference to cached contents at connected devices (e.g., the main focus of the MP system 100 is to provide an efficient, cost-effective mechanism to manage the creation and management of dynamic, continually changing on-line applications, where the title layout pages in the viewer structured storage is replaced when new title layout pages for the are received from the publication storage area on the network server, col. 64, lines 1 – 67),

the intermediate communication streaming manager is further configured to broadcast to at least some of the connected devices indications of caching and purging events (e.g., where the title layout pages in the viewer structured storage is replaced when new title layout pages for the are received from the publication storage area on the network server, col. 64, lines 1 – 67),

wherein the intermediate communication streaming manager is configured to broadcast caching and purging event indications to direct descendant and direct ancestor devices (e.g., where the title layout pages in the viewer structured storage is replaced when new title layout

pages for the are received from the publication storage area on the network server, col. 64, lines 1 – 67),

generate a reference value for each block in the associated cache related to a cost to replace the particular block in the cache (e.g., the main focus of the MP system 100 is to provide an efficient, cost-effective mechanism to manage the creation and management of dynamic, continually changing on-line applications, where the title layout pages in the viewer structured storage is replaced when new title layout pages for the are received from the publication storage area on the network server, col. 64, lines 1 – 67), and

upon a determination that a cache purge is required, select at least one block to purge from a set of blocks having a reference value exceeding a predefined threshold (e.g., where the title layout pages in the viewer structured storage is replaced when new title layout pages for the are received from the publication storage area on the network server, col. 64, lines 1 – 67),

the intermediate streaming communication manager is further configured to recalculate the reference values for blocks in the associated cache upon a receipt of a broadcast from a connected device indicating a change in cache contents at that connected device (e.g., the path 636, also called an object handle or CDPOHandle, is a DWORD (32 bits) that provides a short path or name of the storage. The flags 638 indicate the existence of artifacts, that is, whether the data stream 582, the properties stream 584 and the handle table stream 586 exist in the COS for the current object. The persistence reference count 640 is only valid within a COS and is used for "garbage collection". When an object is no longer used, signified by the persistence reference count 640 equal to zero, garbage collection removes the object. When the object is removed, a tombstone is created in the moniker table to indicate that the object did exist in the

COS at some time in the past. The tombstone is a moniker with a flag, which indicates that the

object of that GUID is extinct. The object storage is purged but the moniker remains, col. 42 line

14 – col. 43, line 64),

the intermediate streaming communication manager is further configured to broadcast to

at least some of the connected devices indications of caching and purging events (e.g., The COS

manager can field object retrieval requests locally from its COS context. In the event the

requested object is not physically present, the COS manager can in turn field the request to the

host machine Object Broker (the local Object Broker at the customer workstation 182, for

example). The local Object Broker may have the requested object cached on the local host

machine, but if not, it will seek to obtain the requested object from a connected remote server

246 at the data center 242 (FIG. 3). But this chain of events may continue in the event that the

remote server 246 does not have the requested object cached either, in which case it will in turn

propagate the request to servers that it is connected to. If eventually found, the requested object

may be either directly forwarded to the original requester machine's Object Broker, or it may be

store-and-forward propagated through the chain of connected server sites. At each server point a

MPS Object Broker is the mediator for the object request. This is the Object Broker's primary

role. The COS Object Broker interface is implemented in the convention of an OLE COM

custom class and is called IobjectBroker, col. 48, line 54 – col. 49, line 8),

the cost for a respective block is determined with reference to at least one of a block size

(e.g., the main focus of the MP system 100 is to provide an efficient, cost-effective mechanism to

manage the creation and management of dynamic, continually changing on-line applications,

The tombstone is a moniker with a flag, which indicates that the object of that GUID is extinct,

col. 42, lines 56 – col. 43, line 15),

a cost in CPU tasks to stream the respective block to the intermediate server from

a connected device which is an alternative source of the respective block (e.g., the main focus of

the MP system 100 is to provide an efficient, cost-effective mechanism to manage the creation

and management of dynamic, continually changing on-line applications, col. 42, lines 56 – col.

43, line 15), quality of transmission line to the alternative source of the respective block, type of

transmission line to the alternative source of the respective block, cost to store and maintain the

block at the particular intermediate server col. 42, lines 56 – col. 43, line 15), distance in network

nodes to the alternative source of the respective block; and frequency of use of the respective

block (e.g., Referring again to FIG. 11c, a GUID map 620 will be described. When a COS is

opened, the MPS reads out the moniker table and creates the GUID map 620. The GUID map

620 is created in the RAM of the computer where the COS exists in the form of a hash table

structure. The map 620 is created by reading each moniker table record to extract the GUID,

such as GUIDx 622, and storing the GUID and a pointer 624 to the corresponding moniker table

record 630 in the GUID map 620. Each GUID stored in the GUID map 620 has a pointer to one

moniker table record. Thus, given a GUID, the system can access the moniker which provides

the path to get the corresponding object and its artifacts, When an object is no longer used,

signified by the persistence reference count 640 equal to zero, garbage collection removes the

object. When the object is removed, a tombstone is created in the moniker table to indicate that

the object did exist in the COS at some time in the past. The tombstone is a moniker with a flag,

which indicates that the object of that GUID is extinct, col. 42, lines 56 – col. 43, line 15),

the intermediate predictive streaming application is configured to predict blocks which will be required by immediate downstream descendant devices (e.g., multimedia publishing system server, arbiter, gateway, WAN, figure 3),

the intermediate streaming communication manager is configured to request blocks from upstream devices in accordance with the prediction of blocks which will be required by downstream devices (e.g., multimedia publishing system server, arbiter, gateway, WAN, figure 3).

Conclusion

10.   This application is a continuation in part of application number 09/120,575, which does not teach the entire claimed invention.

11.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Getchius et al. (6,408, 294) clearly teaches a system for performing online data queries that displays advertisements based on the client request terms for the business listing. The machine executable code identifies terms that are related to one or more of client terms associated with a business listing. Getchius teaches web-based systems for streaming additional advertisement web site elements that are related to the client request.

Barry (6, 615,258) teaches an integrated data management system for providing data management services from an enterprise over the Internet. Barry teaches mechanism to decrease the user perceived system response time in web-based systems.

Jones (6,256,623) teaches the portal host system containing search clip records and one or more tags identifying search words or topics that the clip is related to, to identify related topics.

Van Huben et al. (5,826,265) teaches a design control system suitable for use in connection with the design of integrated circuits and other elements of manufacture having many parts which need to be developed in a concurrent engineering environment with inputs provided by users and or systems which may be located anywhere in the world providing a set of control information for coordinating movement of the design information through development and to release while providing dynamic tracking of the status of elements of the bills of materials in an integrated and coordinated activity control system utilizing a repository which can be implemented in the form of a database (relational, object oriented, etc.) or using a flat file system.

Bowman-Amuah et al. (6,289,382) teaches a system, method, and article of manufacture are provided for delivering service via a globally addressable interface. A plurality of interfaces are provided with access allowed to a plurality of different sets of services from each of the interfaces. Each interface has a unique set of services associated therewith. Each of the interfaces is named with a name indicative of the unique set of services associated therewith. The names of the interfaces are then broadcast to a plurality of systems requiring service.

Devine et al. (6,385,644) clearly teaches inbox server, which acts as an intermediate server to the fulfilling servers and the report manager server.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haresh Patel whose telephone number is (703) 605-5234. The examiner can normally be reached on Monday-Friday from 8:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee, can be reached at (703) 305-8498.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 306-5404.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Haresh Patel

September 24, 2003.

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